

Claims:

1. For use in the detection of an occurrence of a physiological action imparting a displacement to a body part at a natural frequency signature, a bio-
5 filter pad comprising a viscoelastic interior for intimate juxtapositioning against the body part, and having a mechanical resonance frequency midway in the range of the frequency signature associated with the physiological action.
2. The pad according to claim 1 further comprising a peel-off protective
10 liner for exposing an adhesive surface suitable for removable intimate adhesion of the bio-filter pad onto the body part.
3. The pad according to claim 1 wherein said viscoelastic interior has concentric sections for focusing mechanical energy imparted to the bio-filter pad
15 due to a displacement of the body part lying thereunder toward a transducer centrally disposed on its topside facing away from the body part.
4. The pad according to claim 1 and further comprising a restraining member on its topside for removably intimately mechanically coupling a
20 transducer to its topside.
5. The pad according to claim 4 wherein said restraining member slidingly receives said transducer.
- 25 6. The pad according to claim 1 wherein the bio-filter pad is sized and shaped for conforming to an expectant mother's abdomen, and has a mechanical resonance frequency midway in the natural fetal activity frequency signature for fetal activity monitoring purposes.

7. The pad according to claim 1 wherein the bio-filter pad is intended for single patient single use.

8. A method for detecting an occurrence of a physiological action imparting a displacement to a body part at a natural frequency signature, the method comprising the steps of:

- (a) intimately juxtaposing a bio-filter pad against the body part, the bio-filter pad having a viscoelastic interior, and a mechanical resonance frequency midway in the range of the natural frequency signature associated with the physiological action;
- (b) intimately mechanically coupling at least one transducer against the topside of the bio-filter pad for generating electrical signals in response to displacements of the body part; and
- (c) processing the electrical signals for detecting occurrences of the physiological action.

9. The method according to claim 8 wherein step (a) includes the step of removing a peel-off protective liner from the underside of the bio-filter pad exposing an adhesive surface for removable intimate adhesion of the bio-filter pad onto the body part.

10. The method according to claim 8 wherein step (b) includes removably sliding the transducer under a restraining member on the topside of the bio-filter pad.

11. The method according to claim 8 and further comprising the step of focusing mechanical energy imparted to the bio-filter pad due to a displacement of the body part lying thereunder toward the transducer.

12. The method according to claim 8 wherein the bio-filter pad is sized and shaped for conforming to an expectant mother's abdomen, and has a mechanical resonance frequency midway in the natural fetal activity frequency signature for fetal activity monitoring purposes.

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13. The method according to claim 8 wherein the bio-filter pad is intended for single patient single use.

14. Fetal activity monitoring apparatus comprising at least one transducer for intimate juxtaposition against an expectant mother's abdomen for generating electrical signals in response to her abdominal movements; and a fetal activity recorder for processing the electrical signals for detecting occurrences of fetal activity,

characterized in that

15 the apparatus has an electrical signal amplification of about 45 ± 5 dB.

15. Apparatus according to claim 14 wherein said fetal activity recorder includes said at least one transducer integrally formed therewith.

20 16. Apparatus according to claim 14 wherein said fetal activity recorder has an audio output for interfacing with a mobile telephone.